

REMARKS

Claims 2-16 are pending in the application. Claims 2-16 stand rejected. Claims 2-6 have been amended.

Specification Amendments

Paragraph 28 of the specification has been amended. Support for this amendment can be found at least in Figures 5 and 6, and in paragraph 21. No new material has been added with this change.

Claim Rejections – 35 U.S.C. 112, second paragraph

The Examiner has rejected claims 2-16 “under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase ‘after significant exposure to moisture’ is indefinite because it is a subjective phrase.” Office Action, page 2.

The specification of the current application discusses exposure to moisture both prior coated substrates and coated substrates of the present invention:

“This loss usually occurs immediately, upon the first exposure to moisture, or during subsequent processing of the coated substrate.” Paragraph 10.

“The consistent silane layer also retains its consistency in moist environments.” Paragraph 15.

“These prior silane layers would thus lose consistency immediately as the weakly bonded portion of the layer was lost. This inconsistency was exacerbated during further processing as the substrate was exposed to moisture and more of the poorly adhered area was lost.” Paragraph 29.

Applicant asserts that based upon these references in the specification, and based upon experience, a person of skill in the art would not find the phrase “after significant exposure to moisture” to be indefinite. Applicant requests withdrawal of this rejection.

The Examiner has further indicated that the claim limitations involving contact angle measurements are indefinite due to “the lack of any indication as to what fluid is used for this testing”. Office Action, page 2. Applicant asserts that in the absence of further information a person of skill in the art would understand that the contact angles involve the contact angles of water droplets, and thus these claims are not indefinite.

Claim Rejections - 35 U.S.C.102(e)

The Examiner has rejected claims 2-7 and 14 “under 35 U.S.C. 102(e) as being anticipated by Yoneda et al.” Office Action, page 2. Applicant requests reconsideration of the rejection in light of amendments to the claims.

Yoneda discloses a multi-layer covered substrate. The layer in contact with the substrate is referred to as the third layer. *Yoneda* discloses:

For covering the surface of the substrate with the composition (III), no special pre-treatment is required. However, depending upon the purpose, a pre-treatment may be applied. For example, 1) an acid treatment with hydrofluoric acid, sulfuric acid or hydrochloric acid, 2) an alkali treatment with an aqueous sodium hydroxide solution, or 3) a discharge treatment with e.g. plasma irradiation, corona irradiation or electron ray irradiation, may be carried out. Formation of the third layer by covering with the composition (III) is carried out by coating the surface with the composition (III) by means of a **known method such as brush coating, flow coating, spin coating, dip coating, squeegee coating, spray coating or hand coating**, followed by drying in the air or in a stream of nitrogen. The drying can adequately be conducted at room temperature. When heat drying is applied, the temperature and the time may be set taking the heat resistance of the substrate into consideration. The thickness of the third layer formed by said surface treatment is not particularly limited, and in a case where the substrate is e.g. a soda lime glass, the thickness may be at least 100 nm with a purpose of preventing elution of Na ions. The thickness is preferably at most 500 nm, whereby scratch marks are less likely to outstand even when there are scratches. The thickness is particularly preferably at most 100 nm. Further, the third layer may be extremely thin, and **the lower limit is a thickness of a monomolecular layer**.

Yoneda, Col. 21, lns. 24-49, emphasis added.

Although *Yoneda* does mention a monomolecular layer, the methods disclosed by the specification here do not result in a monolayer. Further, the process examples disclosed beginning at Col. 25, line 36, are also bulk process methods and will not result in a monolayer. Thus, although *Yoneda* does mention a monomolecular layer as a lower limit, there is no enabling disclosure in *Yoneda* with regard to a monomolecular layer. Thus, *Yoneda* does not teach or disclose "a silane monolayer", as recited in claims 2-6, as amended. Applicant respectfully requests withdrawal of this rejection with regard to claims 2-6. Claims 7 and 14 are allowable over the cited reference at least for the reason of their dependence on claim 2. Applicant respectfully requests withdrawal of this rejection with regard to claims 3-7 and 14.

The Examiner has rejected claims 2-5, 7, 12 and 15 "under 35 U.S.C. 102(e) as being anticipated by Frugier et al." Office Action, page 3. Applicant requests reconsideration of the rejection in light of amendments to the claims.

Frugier discloses:

Treatment of the substrate is carried out by contacting the substrate with the solution. Any means may be used for accomplishing this, such as film casting, spray coating, centrifugation, immersion coating, dipping, or roll coating. The coating is carried out such that the thickness of the coating after crosslinking meets the specifications for the coated article. For example, the coating thickness must be

such that it does not change the optical properties of the pane, but does confer the desired hydrophobicity, oleophobicity, and abrasion resistance. **Preferably the thickness is in the range of 0.1-10.0 micron, more preferably 0.1-4.0 micron.**

Frugier, Col. 7, lns. 37-48, emphasis added.

Further, in the three process examples given by *Frugier*, the coating thicknesses are 3 microns (Col. 8, ln. 44), 3 microns (Col. 8, ln. 56), and 2.75 microns (Col. 9, ln. 12), whereas monolayers are typically in the angstrom range. Thus, *Frugier* does not teach or disclose “a silane monolayer”, as recited in claims 2-5, as amended. Applicant respectfully requests withdrawal of this rejection with regard to claims -5. Claims 7, 12 and 15 are allowable over the cited reference at least for the reason of their dependence on claim 2. Applicant respectfully requests withdrawal of this rejection with regard to claims 7, 12 and 15.

Claim Rejections - 35 U.S.C.102(b)

The Examiner has rejected claims 2-7 “under 35 U.S.C. 102(b) as being anticipated by Ogawa.” Office Action, page 3. Applicant requests reconsideration of the rejection in light of amendments to the claims.

Ogawa simply does not teach or disclose “a silane monolayer”, as recited in claims 2-6, as amended. Applicant respectfully requests withdrawal of this rejection with regard to claims 2-6. Claim 7 are allowable over the cited reference at least for the reason of its dependence on claim 2. Applicant respectfully requests withdrawal of this rejection with regard to claim 7.

The Examiner has rejected claims 2, 3, 7, 11, and 13 “under 35 U.S.C. 102(b) as being anticipated by Matsumura et al.” Office Action, page 3. Applicant requests reconsideration of the rejection in light of amendments to the claims.

Matsumura simply does not teach or disclose “a silane monolayer”, as recited in claims 2 and 3, as amended. Applicant respectfully requests withdrawal of this rejection with regard to claims 2 and 3. Claims 7, 11, and 13 are allowable over the cited reference at least for the reason of their dependence on claim 2. Applicant respectfully requests withdrawal of this rejection with regard to claims 7, 11, and 13.

Claim Rejections - 35 U.S.C.103(a)

The Examiner has rejected claims 8-10 and 16 “under 35 U.S.C. 103(a) as being anticipated by Matsumura et al., Ogawa ‘541. Frugier et al. and Yoneda et al.” Office Action, page 4. Applicant requests reconsideration of the rejection in light of amendments to the claims.

The cited references do not teach or disclose "a silane monolayer", as recited in claim 2, as amended, as discussed above. Applicant respectfully requests withdrawal of this rejection with regard to claims 8-10 and 16 for at least the reason of their dependence on claim 2 in light of the arguments above.

Double patenting rejections

The Examiner has rejected claims 3, 5, and 6-16 "under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 to 9 of copending Application No. 10/843,774." Office Action, page 5. Claim 2, upon which all of these claims depend, has been amended. Applicant asserts that the amendments to claims 2, 5, and 6 have rendered the claims rejected above patentably distinct from the claims in the reference copending application. Applicant respectfully requests withdrawal of this rejection.

The Examiner has rejected claims 2 and 4 "under 35 U.S.C. 101 as claiming the same invention as that of claims 1 and 4 of copending Application No. 10/843,774." Office Action, page 5. Claims 2 and 4 have been amended. Applicant asserts that the amendments to claims 2 and 4 have rendered the claims rejected above patentably distinct from the claims in the reference copending application. Applicant respectfully requests withdrawal of this rejection.

Summary

For the above reasons, Applicants respectfully request reconsideration and allowance of Claims 1-7, 9, and 11-19. Should the Examiner have any questions concerning this response, the Examiner is invited to call the Michael Guth at (831) 462-8270.

In summary, Claims 2-16 were pending in the application. Claims 2-16 were rejected, This response amended Claims 2-6. . For the above stated reasons, Applicants respectfully request reconsideration and allowance.

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Respectfully submitted,



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